

and hence oxidizing agents containing no nonvolatile component are preferred.

Ozone water may greatly cause a compositional change with time. Accordingly, among the oxidizing agents listed above, hydrogen peroxide is most preferred.

B1 However, oxidizing agents containing a nonvolatile component may be used when the substrate is a glass substrate having no semiconductor devices.--

**IN THE CLAIMS:**

Please cancel claims 1 and 2 without prejudice or disclaimer, and add the following new claims to the application as follows:

--3. A polishing solution for polishing a metal film surface, comprising:

B2 (1) an additive which is capable of etching the metal film surface at an etching rate of 10nm/minute or lower, (2) a protective film-forming agent which, in combination with said additive, is capable of removing the metal film surface by chemical mechanical polishing at a polishing rate of at least 100nm/minute and an etching rate of not more than 10nm/minute, and (3) water.

4. The polishing solution according to claim 3, wherein said additive is a combination of a first material which is an oxidizer of metal of the metal film surface, thereby forming an oxide of the metal, a second material which dissolves the oxide of the metal, and another protective film-forming agent different from said protective film-forming agent.

5. The polishing solution according to claim 4, consisting essentially of said additive, said protective film-forming agent and water.

6. The polishing solution according to claim 3, consisting essentially of said additive, said protective film-forming agent and water.

7. The polishing solution according to claim 3, wherein said protective film-forming agent is selected from the group consisting of compounds having an alcoholic or phenolic hydroxyl group, esters, ethers, polysaccharides, amino acid salts, polycarboxylic acids, polycarboxylates, vinyl polymers, amides, azo compounds and molybdenum compounds.

8. The polishing solution according to claim 3, wherein said protective film-forming agent is at least one selected from a group consisting of polyacrylic acids, polymethacrylic acids, polyamic acids, ammonium polyacrylates, ammonium polymethacrylates, ammonium polyamides and polyacrylamides.

9. The polishing solution according to claim 3, which is adapted to polish a metal film surface including a material that contains at least one of copper, a copper alloy, a copper oxide and a copper alloy oxide.

10. A polishing solution for polishing a metal film surface comprising:

(1) an additive which is capable of removing metal of said metal film surface by chemical mechanical polishing, (2) a first protective film-forming agent, (3) a second protective film-forming agent, and (4) water.

11. The polishing solution according to claim 10, wherein said additive is a combination of another protective film-forming agent and a material that oxidizes metal of the metal film surface.

12. The polishing solution according to claim 10, said solution being capable of removing the metal film surface by chemical mechanical polishing at a polishing rate of at least 100nm/minute and at an etching rate of at most 10nm/ minute.

13. The polishing solution according to claim 10, consisting essentially of said additive, said first protective film-forming agent, said second protective film-forming agent and water.

14. A polishing solution for polishing a metal film surface, comprising:

(1) an oxidized metal dissolving agent, which dissolves an oxide of metal of the metal film surface, (2) an additive which is capable of forming a protective film by at least one of physical adsorption and chemical linkage on the metal film surface, (3) a protective film-forming agent, and (4) water.

15. The polishing solution according to claim 14, said solution being capable of removing the metal film surface by chemical mechanical polishing at a polishing rate of at least 100nm/minute and at an etching rate of at most 10nm/ minute.

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16. The polishing solution according to claim 14, wherein said additive includes an oxidizing agent that oxidizes the metal of the metal film surface.

17. The polishing solution according to claim 14, consisting essentially of said oxidized metal dissolving agent, said additive, said protective film-forming agent and water.

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